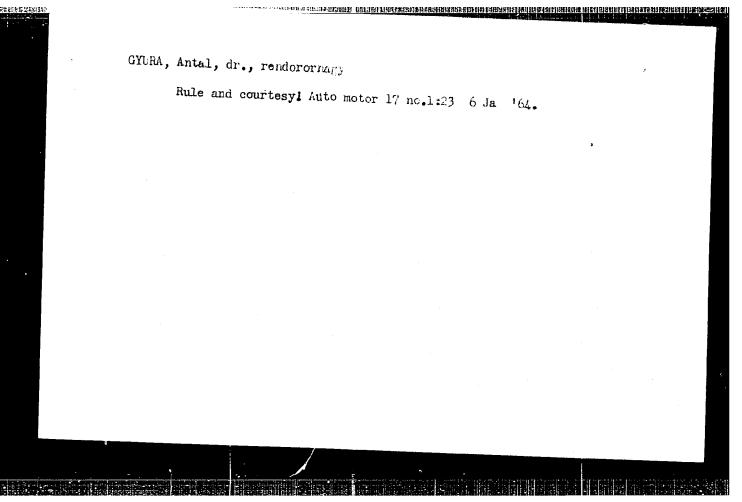


"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000617810001-7

# REEL #178 GYURA, ANTAL



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- 2. USSE (600)
- 4. Feudalism
- 7. Theoretical conference on the problem of feudal property, Vop.ist. no. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

GYURDZHIAN, A. A. USSR/Biolc\_ - Physiology • 1/1 Card Gyurdzhian, A. A. Auchors Measurement of analyzer sensitivity toward a stimulus as result of transformation of the latter into a conditional-reflex Title Dokl. AN SSSR, 96, Ed. 6, 1273 - 1275, June 1954 Periodical The conditional reflex formulates and determines the sensitivity of an analyzer toward the stimuli. The sensitivity of the analyzer to stimuli Abstract is in perfect conformity with the biological importance of the latter. Other physiological data regarding the analyzer sensitivity and conditional reflexes are described. Two references. Graph. The N. N. Burdenko Central War Hospital Institute Academician K. M. Bykov, April 15, 1954 Presented by :

USSR/ Medicine - Physiology

Card 1/1

Pub. 22 - 46/47

Authors

Gyurdzian, A. A.

Title

Change in sensitivity of analysor to ctimulant as result of converting the latter into a conditional reflex impulse.

Periodical :

Dok. AN SSSR 101/6, 1145 - 1146, Apr. 21, 1955

Abstract

Experiments were conducted on 14 patients of various ages to determine their physiological reactions during a change in the sensitivity of an audio analysor toward the stimulant as result of transforming the latter into a conditional reflex impulse. Results obtained are briefly described. One USSR reference (1954). Graph.

Institution:

The N. N. Burdenko Main Military Hospital

Presented by:

Academician L. A. Orbeli, January 13, 1955

GYURDZHIYAN, AH

"Concerning the Influence of Cervical Vagosympathetic Novocain Blockade on the Course of Acute Radiation Sickness in Dogs," by A. N. Gamaleya, A. A. Gyurdzhiyan, A. A. Zhgun, and P. V. Simonov, Main Military Hospital imeni Academician N. N. Burdenko, Ministry of Defense USSR, Meditsinskaya Radiologiya, Vol 1, No 6, Nov/Dec 56, pp 3.5

Ten pairs of dogs were subjected to total X-ray irradiation by doses causing acute radiation sickness (600-700 r). Three to four hours after irradiation novocain blockade was produced by 30-70 ml of a freshly prepared 0.5% solution of novocain.

The results showed that cervical vagosympathetic novocain blockade did not exert any positive influence on the course of acute radiation sickness at a severe stage in dogs, and so cannot be regarded as a therapeutic agent in overcoming radiation injuries during the severe stage of acute radiation sickness. (U)

SUM1322

ोसम्बद्धानम्पानमञ्ज्ञानम् । स्वापन्न स्वापन्न स्वापन्न स्वापन्न स्वापन्न । स्वापन्न । स्वापन्न स्वापन्न स्वापन

## 51. Effect of Ionizing Radiation on the Activity of Penicillin Studied

"The Effect of Ionizing Radiation on the Activity of Penicillin," by Col A. N. Gamaleya, Medical Service; Capt A. A. Gyurdzhiam, Medical Service, Candidate of Medical Sciences; Capt P. V. Simonov, Medical Service, Candidate of Medical Sciences; and L. A. Belyayeva, Voyanno-Meditsinskiy Zhurnal, No 11, Nov 56, pp 33-36.

The presented data is based on clinical observations and animal experiments.

The following findings were obtained:

Desiccated penicillin and a solution of it in 0.5% novocain are resistant to the action of X-rays in doses from 100 to 100,000 r. Therapeutic doses of penetrating radiation do not lower the concentration of penicillin in the blood serum of irradiated patients. General external X-irradiation of a rabbit with a dose of 1,000 r does not lower the concentration of penicillin in the blood serum of the animal. The presence of radioactive phosphorus (P 32) and iodine (I 131) (beta and gamma irradiation) in doses from 10-20 mc (internal irradiation) does not reduce the concentration of penicillin in the blood serum of the experimental animal. (U)

Sym 1434

GYURDRHIAE, A.A

USSR/Optics - Physiological Optics.

**X-9** 

Abs Jour

: Referat Zhur - Fizika, No 3, 1957, 8065

Author

: Gyurdrhian, A.A.

Inst

: Institute of Evolution Physiology and Pathology of the Higher Nervous Activity, Academy of Medical Sciences, USSR

Title

: Course of Dark Adaptation After "Fatigue" of the Eye to

Various Spectral Stimuli.

Orig Pub

: Dokl. AN SSSR, 1956, 107, No 4, 537-540

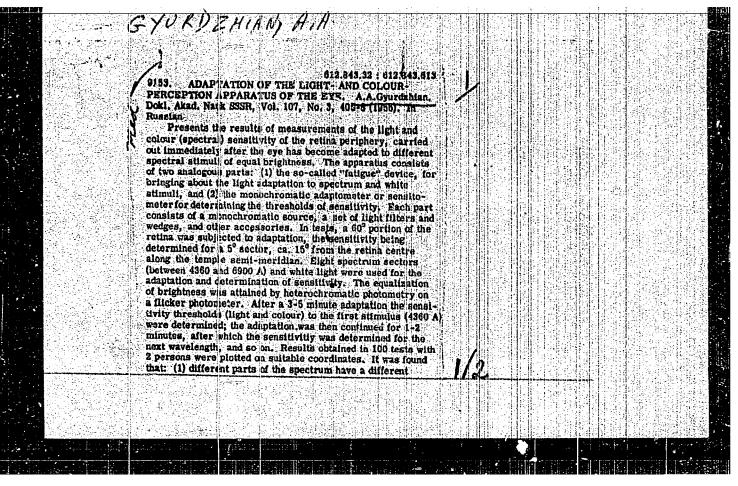
Abstract

: Results of the study of the dark adaptation after preliminary "fatigue" of the eye for five minutes by some monochromatic stimulus are given. It has been observed that fatigue to the long-wave spectral stimuli reduces the light sensitivity less than all other equally-bright stimuli. Fatigue to the short-wave stimuli is characterized by the opposite action. At the same time, the greatest reduction in the light sensitivity is caused by long-wave fatiguing stimuli, and the least by the short-wave ones. A close connection is noted between the curves of dark adaptation for light and color

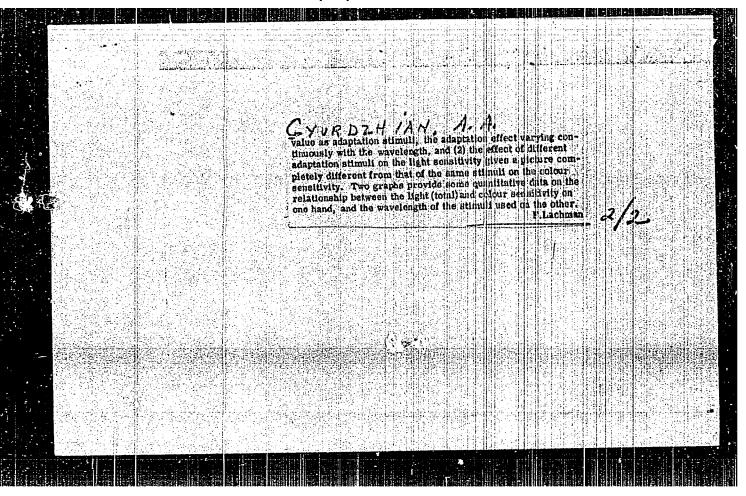
adapte - 126 -

sensitivity.

Card 1/1



"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617810001-7



GAMALEYA, A.N.; GYURDZHIAN, A.A.; ZHGUN, A.A.; SIMONOV, P.V.

Treatment of acute radiation sickness in dogs with drip trensfusion of blood [with summery in English]. Med.rad. 2 no.6:56-61 N-D '57.

(HIRA 11:2)

1. Iz otdeleniya luchevoy terapii (nach. A.M. Gemeleys) i eksperimental'-noy leboratorii (i.o.nsch. - kandidat meditsinskikh nauk A.A. Gyurdzhian) "lavnogo voyemnogo gospitalya imeni skad. N.N. Burdenko Ministerstva oborony SSiR.

(HOENTOEN RAYS, eff.
total body irradiation, eff. of drip blood transfusion on survival of dogs)

(BLOOD TRANSYUSION, exper.
eff. on suvival of dogs after total body x-irradiation)

orance el a anno comunicación de accesa, ano accesamentativación escriba antidamentarentensas

GAMALEYA, A.N.; GYURDZHIAN, A.A.; KOSHKIN, A.F.; NEKHASOV, V.P.; SIMONOV, P.V.

Characteristics of the postoperative period in acute radiation sickness in dogs. Med. rad. 4 no.4:64-70 Ap '59. (MIHA 12:7)

1. Iz otdeleniya luchevoy terapii (nach. A.N. Gamaleya) i eksperimental'noy laboratorii (nach. - kandidat med. nauk A.A. Gyurdzhian) Glavnogo voyemnogo gospitalya imeni akad. N.N. Burdenko.

(ROKNOZH RAYS, effects, on postop. course in exper. surg. in dogs (Rus))

(SURMENY, OPERATIVE eff. of x-rays on postop. course in exper. surg. in dogs (Rus))

URDZHIAN, A.A. 37201 5/560/61/000/011/007/012 E027/E635 Zhukov-Verezhnikov, N.N., Mayskiy, I.N., AUTHORS: Yazdovskiy, V.I., Pekhov, A.P., Gyurdzhian, A.A. Nefed'yeva, N.P., Kapichnikov, M.M., Podoplelov, I.I., Rybakov, N.I., Klemparskaya, N.N., Klimov, V.Yu., Novikov, S.N., Novikova, I.S., Petrov, R.V., Sushko, N.G., Ugryumov, Ye.P., Fedorova, G.I., Zakharov, A.F., Vinogradova, I.N., Chamova, K.G. and Buyko, Ye.A. . The results of the first microbiological and TITLE: cytological experiments in Space in Earth satellites Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli. SOURCE: no. 11. Moscow, 1961. Rezul'taty nauchnykh issledovaniy, provedennykh vo vremya poletov vtorego i tret'yego kosmicheskikh korabloy-sputnikov, 44 - 67 TEXT: The authors report the results of their investigations of biological objects which had been exposed to space conditions in satellite vehicles. The first part of the work was devoted to a study of the survival of cells of differing levels of erganisation under the influence of radiation and other Card 1/5

S/560/61/0GC/011/007/012 E027/E635

The results of the ---

unfavourable factors, in comparison with control materials which remained in the laboratory over the same period. In experiments with bacteria 2ml. samples of suspensions of Eacherichia coli, Aerobacter aerogenes, Staphylococcus aureus and Clostridium butyricum containing 500 million organisms or spores per ml. were sealed in ampoules, and exposed to a space flight of unstated duration; the number of viable individuals after the exposure did not differ significantly from the values for the control samples. A similar experiment was carried out with the T2 phage of E, coli and the 1321 phage of A, aerogenes, which were sent in the second satellite; again, no sigificant reduction in the titre of the phage preparations could be detected after return from space. Similar results were obtained with preparations of phage sent into space in the fourth and fifth satellites. Two bottles and six tubes of HeLa cells, some of which were saturated with oxygen, were exposed to space flight

Card 2/5

5/560/61/000/011/007/012 E027/E635 11

The results of the . ..

conditions, after it had first been shown that vibration and acceleration did not detach the cells from the glass. The cultures without oxygen appeared normal on return, whereas in those exposed to oxygen most of the cells had degenerated. Subculture showed that 90% of the cells, whether detached from or remaining on the glass, were dead; however, two tubes gave good growth, and the cells which grew up showed no abnormalities of morphology. No antigenic differences could be detected in tha cells in anaphylaxis and desensitization experiments in guineapigs. In subsequent space flights fibroblast and human amnion cell cultures were sudied, with similar results. Pieces of human and rabbit skin were also used. On August 12th 1960 two pieces of skin 2.5 x 3.5 cm. in size and 0.5 mm. thick were taken from a human donor, placed in Hanks solution and sent into space in the second satellite. On recovery they were regrafted on the original site in the donor and became firmly attached after seven days. Card 3/5

S/560/61/000/011/007/012
The results of the --- E027/E635

Similar results were obtained with two other donors. An apparatus was devised for making a subculture in space, in order to study the ability of bacteria to multiply under space conditions. In experiments with Glostridium butylicum no déviations from the controls were observed. The second part of the work was devoted to a study of possible genetic effects brought about by exposure to space conditions, mainly by looking for the production of auxotrophic mutants and lysogeny in bacteria. The former were detected by inoculation on a layer of minimal medium which was then covered with an overlay of the same medium in order to fix the colonies. When the latter had grown up their position was noted and an overlay of complete medium was then put on, and the colonies which then grew up as a result of the diffusion of essentialmutrients were selected as auxotrophic mutants. No such mutants could be found in suspensions of Escherichia coli recovered from the second satellite. The experiments on the induction of lysogenic bateria were carried out on a strain of E. coli lysogenized by a  $\lambda$  phage which had been exposed to cosmic

Card 4/5

5/560/61/000/011/007/012 E027/E635

The results of the ---

radiation in the fifth satellite. Free phase particles were removed by adding phase antiserum; after the end of the latent period the action of the antiserum was cut short by diluting 1:100, streptomycin was added to inhibit the host organisms, and the mixture was plated out on the indicator strain in order to count the phase particles produced. The results obtained, considered in comparison with control experiments, provided no evidence of induction by cosmic radiation during a space flight of ninety minutes. No difference was observed in the plaque morphology. No changes could be detected in the chemical and physical properties of calf thymus deoxyribonucleic acid recovered after a space flight. The results as a whole indicate that no damage was suffered by isolated cells during a brief exposure to space conditions. There are 6 figures and 10 tables.

SUBMITTED: May 23, 1961

Card 5/5

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77.6370 27.5100 37203

5/560/61/000/011/009/012

E027/635

AUTHORS:

Gyurdzhian, A.A.. Demin, N.N., Korneyeva, N.V., Elvova, T.S., Tutochkina, L.T., Uspenskaya, M.S.,

Fedorova, T.A.

TITLE:

Some aspects of metabolism in animals which have

undergone a space flight

SOURCE:

Iskusstvennyye sputniki Zemli. Akademiya nauk SSR.

Moscow, 1961. Rezul'taty nauchnykh no. 11.

issledovaniy, provedennykh vo vremya poletov vtorogo i tret'yego kosmicheskikh korabley-sputnikov, 78 - 86

The authors have studied biochemical processes in dogs TEXT: during training and after flights in rockets and satellite vehicles particular attention being devoted to those processes which are affected by stress conditions and by exposure to ionizing radiation. The dogs were first adapted to space flight conditions, in which they were exposed to vibrations of frequency 70 cycles and amplitude 0.4 mm continued for up to 12 minutes, and to

Card 1/4

S/560/61/000/011/009/012 E027/635

Some aspects of ---

accelerations of 6-9 g continued for 5 - 12 minutes. dogs were studied in all, of which five made space flights in 1958-59 while thirteen remained on the ground. The dogs Belka and Strelka were investigated before the flight and 2, 6, 13, 23, 25 and 32 days afterwards. One dog (Otvazhnaya) made five flights. Two rats and five mice of the C57 line were also studied after a In the dogs, determinations were made of the fractional composition of the serum proteins, the flight in the second satellite. serum mucoids, pseudocholinesterase activity, and the content of free and bound 21-hydroxy-20-kestosteroids in the urine. During the training period marked fluctuations occurred in the serum proteins, both in the animals which made space flights and in the After acceleration in the centrifuge a rise in cholinesterase activity occurred, reaching a peak after two days and then declining, and there was also a rise in the content of serum mucoids and a fall in the total prtein content of the scrum. Similar, but less marked effects, were observed after exposure to A rise in serum mucoids occurred two to six days vibration.

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Some aspects of ---

after return from a space flight, and after six days there was a rise in the total serum proteins. No definite changes were observed in cholinesterase activity. From a consideration of the results three states could be distinguished in the animals in response to training and space flights: (1) activation of functions; (2) a dystrophic condition, and (3) a reaction of stress type characterized by a reversible inhibition of functions. In investigations of the urine no particular changes were noted in the volume or the specific gravity during training or after a A decrease in the content of deoxycytidine was space flight. After exposure to observed in Belka and an increase in Strelka. vibration and acceleration an increase of deoythymidine and Dische-positive substances in the urine was observed in Otvazhnaya. One month later the levels of both had returned to normal. A fall in the Dische-positive substances to 50% of the control values was found in the urine of five mice five days after a space flight in the second satellite. It was concluded that

Card 3/4

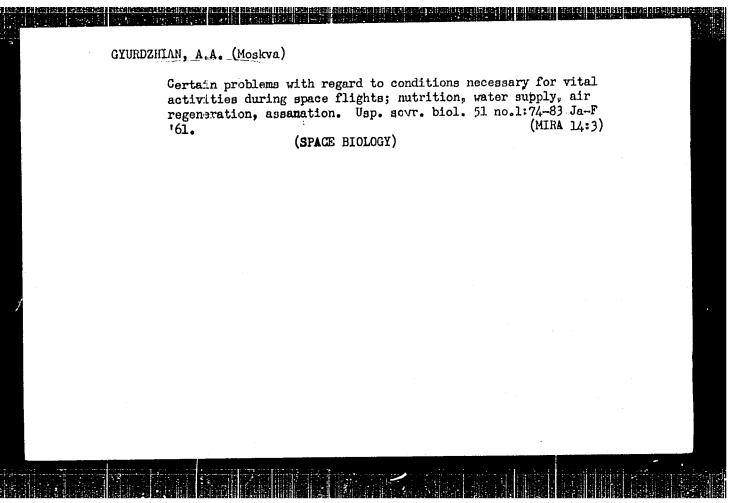
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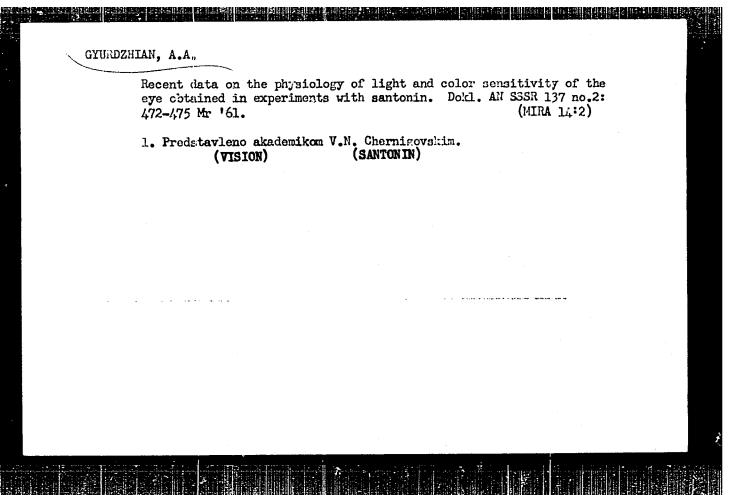
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the results indicated the occurrence of disturbances in the metabolism of deoxyribonucleic acid after a space flight, but that these disturbances were temporary and reversible. The responses of the animals resembled a stress reaction rather than radiation damage. There are 6 figures and 2 tables.

SUBMITTED: May 23, 1961

Card 4/4





VOLYNKIN, Yu.M.; YAZDOVSKIY, V.I.; GENIN, A.M.; VASIL'YEV, F.V.;
GYURDZHIAN, A.A.; GURCVSKIY, N.Y.; GORBOV, F.D.; SERYAPIN,
A.D.; BELAY, V.Ye.; BAYEVSKIY, R.M.; ALTUKHOV, G.V.;
KOPANEV, V.I.; KAS'YAN, I.I.; YEGOROV, A.D.; SIL'VESTROV,
M.M.; SIMPURA, S.F.; TERENT'YEV, V.G.; KRYLOV, Yu.V.; FOMIN,
A.G.; USHAKOV, A.S.; DEGTYAREV, V.A.; VOLOVICH, V.G.;
STEPANTSOV, V.I.; MYASHIKOV, V.I.; YAZDOVSKIY, V.I.; KASHIN,
P.S., tekhn. red.

[First space flights of man; the scientific results of the medicobiological research conducted during the orbital flights of the spaceships "Vostok" and "Vostok-2"]Pervye kosmicheskie polety cheloveka; nauchny rezul'taty medikobiologicheskikh issledovanii, provedennykh vo vremia orbital'nykh poletov korablei-sputnikov "Vostok" i "Vostok-2." Moskva, Izd-vo Akad. nauk SSSR, 1962. 202 p. (MIRA 15:11) (SPACE MEDICINE) (SPACE FLIGHT TRAINING)

s/865/62/001/000/002/033 E028/E185

AUTHOR:

Gyurdzhian, A.A.

TITLE:

Radiobiological problems of space flight

SOURCE:

Problemy kosmicheskoy biologii. Ed. by

N.M. Sisakyan. Moscow, Izd-vo AN SSSR, 1962, 27-103

Existing information on the physical and medical aspects of space flight is reviewed in considerable detail, and a bibliography of nearly 300 references to both Soviet and Western literature is given. The individual sections deal with general aspects of the physics of cosmic radiation, radiation belts around the Earth, the interaction of cosmic radiation with the environment, the intensity and structure of the ionization produced by it in the tissues, the principles of physical protection against cosmic radiation, methods of investigating and defining its biological effect, particular aspects of the biclogical effect and of the ionization produced in the tissues, the effect of the heavy particles, the genetic effect, the combined action of cosmic radiation and other flight factors,

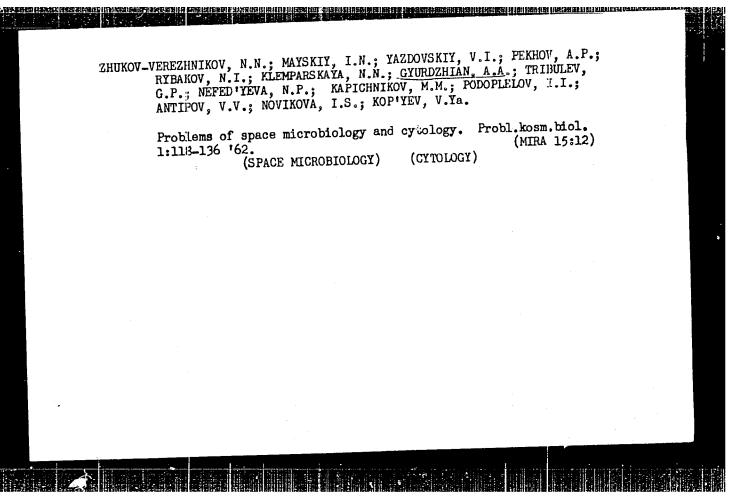
Card 1/2

CIA-RDP86-00513R000617810001-7" **APPROVED FOR RELEASE: 09/17/2001** 

Radichiological problems of space ... S/865/62/001/000/002/033
general biological problems, and the results of experiments on the biological effect of cosmic radiation, carried out in terrestrial laboratories and in space vehicles.

There are 21 figures and 6 tables.

Card 2/2



GYURDZHIAN, A.A.; DEMIN, N.N.; TUTOCHKIN, L.T.; USPENSKAYA, M.S.; FEDOROVA, T.A.

Biochemical investigation of the blood and urea of animals after the flight in a spaceship. Probl.kosm.biol. 1:152-160 '62.

(MIRA 15:12)

(BLOOD-ANALYSIS AND CHEMISTRY)
(SPACE FLIGHT-PHYSIOLOGICAL EFFECT)
(URINE-ANALYSIS AND PATHOLOGY)

#### s/865/62/001/000/015/033 E028/E185

AUTHORS:

Antipov, V.V., Bayevskiy, R.M., Gazenko, O.G.,

Genin, A.M., Gyurdzhian, A.A., Zhukov-Verezhnikov, N.N., Zhuravlev, B.A., Karpova, L.I., Parfenov, G.P., Seryapin, A.D., Shepelev, Ye.Ya., Yazdovskiy, V.I.

TITLE:

Some results of medical and biological investigations

in the second and third satellites

SOURCE:

Problemy kosmicheskiy biologii. v.l. Ed. by N.M. Sisakyan. Moscow, Izd-vo AN SSSR, 1962. 267-284

The maintenance of life conditions is discussed with special reference to the second Soviet satellite. During the flight the proportion of oxygen in the air of the cabin could be maintained at 21 to 24%, whereas the relative humidity rose from The temperature ranged from 16 to 19°C. food were provided together in a mixture solidified with agar, in order to facilitate automatic dispensing in conditions of weight-This was carried out twice daily by command signals lessness. Telemetric recording of the physiological parameters from Earth. of the dogs Belka and Strelka during space flight showed the Card 1/2

S/865/62/001/000/020/033 E028/E185

AUTHORS: Gazenko O.G., Gyurdzhian A.A., and Zakhar'yev, G.A.

TITLE: A sanitary appliance in a space capsule

SOURCE: Problemy kosmicheskoy biologii. v.l. Ed. by

N.M. Sisakyan. Muscow, Izd-vo AN SSSR, 1962. 328-335

TEXT: The authors have developed a sanitary appliance to be worn by dogs during space flights. It consists of a one-piece garment of rubberized fabric adjustable by straps, with appropriate holes for the head, limbs and tail. The rear end is provided with an obturating ring which fits closely around the pelvis. A tube-like extension leads from this to a fixed tank in which the urine and faeces are collected separately. The appliance functioned satisfactorily and was well tolerated in 20-day laboratory experiments; it was subsequently used on the dog Layka during an actual space flight.

There are 6 figures.

Card 1/1

5/865/62/001/000/021/033 E028/E185

AUTHORS:

Gazenko, O.G., and Gyurdzhian, A.A.

TITLE:

Fixation of an animal in a space capsule, a fabric harness, and the arrangement of sensors for the

recording of physiological functions

SOURCE:

Problemy kosmicheskoy biologii. v.l. Ed. by

N.M. Sisakyan. Moscow, Izd-vo AN SSSR, 1962. 336-344

A fabric harness for affixing sensors to the body of a TEXT: dog during space flight has been developed. It consists of two pieces which fit over the head and forelimbs and hindquarters respectively, and are joined by straps. A pocket in the neck piece accommodates the sensor for recording pulse rate and arterial pressure. The harness is fixed to the surroundings with chains which permit free movement of the animal while at the same time preventing traction on the sensor leads. It was well telerated for periods of up to 20 days, and was used on the dog Layka during the second space flight. a Card 1/1 There are 8 figures.

na-08-7-77

CIA-RDP86-00513R000617810001-7" **APPROVED FOR RELEASE: 09/17/2001** 

BALAKHOVSKIY, I.S.; GAZENKO, O.G.; GYURDZHIAN, A.A.; GENIN, A.M.;

KOTOVSKAYA, A.R.; SERYAPIN, A.D.; YAZDOVSKIY, V.I.

Results of investigations in an artificial satellite. Probl.

kosm.biol. 1:359-370 '62. (MIRA 15:12)

((SPACE FLIGHT—PHYSIOLOGICAL EFFECT)

s/865/62/001/000/026/033 E028/E485

AUTHORS:

Baranovskaya, I.V., Gyurdzhian, A.A.

TITLE:

Containers for certain biological materials used in

experiments in satellites

SOURCE:

Problemy kosmicheskoy biologii. v.l. Ed. by

N.M. Sisakyan. Moscow, Izd-vo AN SSSR, 1962. 405-407

Containers for housing biological test materials during They are constructed in plexiglass, TEXT: a material which does not afford any protection against ionizing (1) A container for Tradescantia consists of 2 cylinders 150 to 170 mm in length and 70 to 75 mm in diameter, which fit together to form a closed pot. The plant is grown in garden soil in the bottom half and the soil is kept in position (2) Drosophila is kept with a layer of gauze and a metal grid. in conical or pyramidal flasks of diameter 50 to 60 mm and height 75 to 95 mm. A layer of nutrient medium is placed on the (3) Seeds are kept in square boxes of side 60 to 70 min and depth 10 to 15 mm. (4) Cultures of Actinomyces or Chlorella are grown in the appropriate media in stoppered tubes 180 mm in Card 1/2

S/865/62/001/000/027/033 E028/E485

AUTHORS:

Baranovskaya, T.V., Gyurdzhian, A.A.

TITLE:

Provision of conditions for the prolonged flight of

mice in a space ship

SOURCE:

Problemy kosmichoskoy biologii. v.l. Ed. by

M.M.Sisakyan. Moscow, Izd-vo AN SSSR, 1962. 408-411

TEXT: A container for housing mice during space flights is described, consisting of a rectangular box of sides 17 x 12 x 12 cm made of 5 x 5 mm wire mesh, one end of which is detachable. To the sides and top are fixed 8 cylindrical food containers, 16 mm in diameter, equal in length to the box. A slit 10 mm in width runs along the greater part of each container to allow the mice to gain access to the food. To the back end of the box is fixed a square water tank holding 250 to 300 ml. An S tube leads from the water tank to the interior of the mouse box and is occupied by a wick which allows water to escape from its end at the rate of 1 to 2 drops per minute. Food pellets of special composition are loaded into the food containers. Ten to fifteen mice may be placed in the box and in laboratory experiments it was possible to Card 1/2

	Provision of conditions						s/865/62/001/000/027/033 E028/E485				33	
	maintain was used flights.	succes	sfully	during	the	10 to second	15 day land s	rs. subseq	The luent	conta:	iner	
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L	Card 2/2	• • • • • • • • • • • • • • • • • • • •								ا ئىينىدىسىدى		

TITLE: Study of biological effect of cosmic radiation on

space ships

SOURCE: Problemy kosmicheskoy biologii. v. 2. Ed. by N. Sisakyan and V. Yazdovskiy. Noscow, Izd-vo AN SSSR, 1962,

93-96

This article was presented at the 10th European Congress on Aviation and Space Medicine, Paris, 26-30 September 1961. In the experiments on space ships the following species of the animal and plant world were tested (the specimens were at different stages of development and had different radiation sensitivity): dogs, mice, rats and guinea pigs; insects (Drosophila flies); plants, such as grains, peas, maize, ranunculus (Nigella); Chlorella algae; microbiologic and cytologic specimens; bacteria; also pieces of human and rabbit skin, which were reimplanted after the flight on the donors; desoxyribonucleic acid, etc. Special automatic devices (bioelements)

Card 1/3

S/865/62/002/000/010/042 D405/D301

Study of biological effect ...

permitted obtaining (by telemetry) data on the life process of some bacteria during the flight. The dosimetric instruments which were installed in the cabin of Space Ship II showed that the total dose of absorbed radiation inside the space ship was about 10 mrad per day. No artificially induced radioactivity was detected. Clinical examinations of the dogs, rats, mice and guinea pigs immediately after the flight and later on did not reveal anything unusual in their general state and behavior. Biochemical and immunological investigations of the dogs showed the transitory stress reaction. The conditional reflex activity of the rats was not affected by the flight. The microbiological and cytological investigations had the double purpose of studying life conditions in space and the genetic changes due to space factors. The flight conditions had no appreciable effect on the microbiological and cytological objects. In the mice, some chromosome abborations were observed; two lines of Drosophila exhibited a slight increase in the frequency of mutations. On the other hand, growth stimulation was observed in the spores of Actinomycetes and in the dry seeds of Nigella and Allium. Laboratory tests showed that vibrations caused genetic changes in Droso-Card 2/3

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ZHUKOV\_VEREZHNIKOV, N.N.; MAYSKIY, I.N.; YAZDOVSKIY, V.I.; PEXHOV, A.P.;
GYURDZHIAN, A.A.; RYBAKOV, N.I.; ANTIPOV, V.V.

Microbiological and cytological studies in spaceships. Probl.
ksom.biol. 2:140-148 '62.

(SPACE BIOLOGY)

Z/040/62/000/010/001/002 D006/D102

AUTHOR: Gynrayan, Are

Gyurdyan, Armen, Candidate of Medical Sciences, Scientific

Commentator of the Novosti Press Agency

TITLE:

Men in space

PERIODICAL:

Letecky obzor, no. 10, 1962, 322-323

TEXT: This is a brief, popular review of the development of space biology and medicine for more than ten years, climaxing in the prolonged orbital flight of indrigan Nikolayevich and Pavel Popovich aboard the Vostok-3 and Vostok-4 spacecraft, respectively. During this flight the astronauts received not only concentrated food from squeeze-tubes, but also fresh food which will be mandatory in long-duration space flights. Light-weight sensors, designed as not to impede the astronauts' freedom of movement, constantly monitored their brain functions, galvanic reflexes of the skin, movements of the eyballs, and numerous other functions. The astronauts performed special physiological and psychological tests according to a given schedule. To this end they unstrapped themselves from their seats and per-

Card 1/2

Men in space.

Z/040/62/000/C10/001/G02 D006/D102

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formed prescribed movements in the spacecraft. Constant radio connection with the ground prevented the development of a feeling of isolation in the astronauts. Prior to the launching of the spacecraft, the solar activity was closely observed so as to select a period with the least radiation. Special dose rate meters were installed aboard the spacecraft, and insects, plants and seeds were carried along to serve as biological dose rate meters. Further research in space biology and medicine will permit the solution of many important biological problems, such as existence of life in space; history of life development; possibility of transferring life forms from one celestial body to another; the significance of the gravitation field for the development and existence of organisms; and the influence of zero gravity and increased gravity on life.

Card 2/2

\$/560/62/000/012/008/014 1015/1215

AUTHOR:

Gyurdzhian, A.A.

TITLE:

The biological effect of cosmic radiation

SOURCE:

Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli,

no.12, Moscow, 1362, 77-104

TEXT: This is a review article with the following subheadings: the relative biological activity (RDA) of the various rays; some characteristics of the biological effect of ionizing particles of the cosmic radiation; some characteristics of ionization of body tissues by particles of cosmic radiation; the biological effect of the heavy particles of cosmic radiation; the genetic effect; the combined effect of cosmic radiation and other factors present during space flight; some problems of general biology; the experimental (on Earth) study of the biological effect of cosmic radiation; the study of the biological effect of cosmic radiation; the study of the biological effect of cosmic radiation in flight experiments; biological experiments on space ships-sputniks. There are 2 figures, 2 tables and 196 references.

SUBMITTED: May, 1061

Card 1/1

GYURDZHIAN, A.A., kand.med.nauk

Life in a space ship. Zdorov'e 8 no.10:4-5 0 '62. (MIRA 15:10)

(SPACE FLICHT)

s/0000/63/000/000/0056/0060

ACCESSION NR: AT4042653

AUTHOR: Baranov, V. I.; Gyurdzhian, A. A.; Lomova, M. A.; Radkevich, L. A.; Tutochkina, L. T.; Fedorova, T. A.; Furayeva, L. P.; Khn\*chev, S. S.; Artem'yeva, N. S.

TITLE: The effect of gravity on the development of organisms

V.

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963. Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy konferentsii. Moscow, 1963, 56-60

TOPEC TAGS: gravity, centrifuge, organism development, physiological function, rat, chronic centrifugation, blood composition, urine composition, Coriolis acceleration

ABSTRACT: In this investigation, Baranov and his co-workers designed a centrifuge for small animals with an arm radius of 135 cm which could be regulated to produce artificial gravitational fields of from 4 to 5 g. The centrifuge was arranged in such a way that the arms and cages at the end of the arms would simultaneously rotate around their axes producing Coriolis accelerations. A single control panel

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ACCESSION NR: AT4042653

and creatinine (60%) were lower than in the control animals. Finally, the estral cycle of experimental females was significantly altered, though one female gave normal birth to young. In the second investigation, control animals exposed to brief accelerations of 5 g showed noticeable increases in the level of non-esterified fatty acids, decreases in serum mucoid composition, and increases in the albuminglobulin ration. However, at 20 g there was an increase in serum mucoid composition and a decrease in the albumin-globulin ration. Biochemical variations in experimental animals subjected to the same accelerations were insignificant. The authors conclude that gravity plays a complex role in the physiological processes of the developing organism but that the true mechanism of this role is far from being understood.

ASSOCIATION: none

SUBMITTED: 27Sep63

ENCL: 00

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NO REF SOV: OOO

OTHER: 000

**Card 3/3** 

VOLYNKIN, Yu.M.; GCZULOV, S.A.; GYUREZHIAN, A.A.; YEREMIN, A.V.; YUGANGV, Ye.M.

Some problems in current aviation medicine; a review of the literature.

Voca. med. zhur. no. 2:61-66 '63. (MIRA 17:9)

GYURDZHIAN, A.A.; YEREFIIN, A.V.

Tenth European congress on aviation and speca medicine. Izv.
AN SSSR, Ser. biol. 28 no.1:138-145 Ja-F'63. (MIFA 16:8)
(AVIATION MEDICINE—CONGRESSES) (SPACE MEDICINE—CONGRESSES)

CCESSIO	n nr: al 3004436		s/020/e	3/151/004/0982/0985	
Jihors:	Gyurdzhian, A.	A.; Lomova, M. A.	; Radkevich, L. A.		63
	Quantity of non-	esterified fatty a	cids in the plasms	of rats subjected	to
OURCE:	AN SSSR. Doklad	y*, v. 151, no. 4,	1963, 982-985.		
OPIC TA	GS: fathy acid,	plasma, accelera	tion.		
f 2, 5, ecclera y decap mmediat levated f 2g pr roduced etermin he rate as slow	and 20g (in sometion or after 30 itation. Determely after decelor in all rats exceeduced a 19% incomment identical ations were made of acceleration or in a group of for 2.5 menths.	min, or 2, 4, or ination of non-est ration showed that ept those subjecterease in the NEFA l increases (35%). later. A relation and the increase rate subjected to	, and 30g) for 5 m 24 hrs, blood was erified fatty acid the level of thes d to 30g accelerate level, while accel This increase was onship was found in in the NEFA level.	ion. An accelerati	ter on h

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	ACCESSION NR: A19003008, M. A. A.; Apanasenko, Z. I.; Baranov, V. T.; Kuznetsova, M. A.; Apanasenko,
	AUTHOR: Cyurdzhian, A. A.; Apanasenko, 2.
41877	Radkevich, L. A.
	TITIE: Effects of prolonged accelerations on the growth of the organism and the
	functional condition of columns this islu-
	SOURCE: AN SSR. Institut biologicheskov fiziki. Vliyaniye ioniziruyushchikh izlu- source: AN SSR. Institut biologicheskov fiziki. Vliyaniye ioniziruyushchikh izlu- cheniy i dinamicheskikh far torov na funktsii tsentral nov nervnoy sistemy; voprosy cheniy i dinamicheskikh far torov na funktsii tsentral nov nervnoy sistemy; voprosy cheniy i dinamicheskikh far torov na funktsii tsentral nov nervnoy sistemy; voprosy cheniy i dinamicheskikh far torov na funktsii tsentral nov nervnoy sistemy; voprosy
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	TOPIC TAGS: prolonged acceleration, chronic acceleration, acceleration effect, or-
	ABSTRACT: Half litters of white laboratory rats with their mothers were subjected  ABSTRACT: Half litters of white laboratory rats with their mothers were subjected  ABSTRACT: Half litters of the laboratory rats with their mothers were subjected
	with foster mothers, served as controls. In all cases the weight was mental animals was found to be less than that of the controls. Motor activity was
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ः रात्ताः । अस्तान् भागतान्तरातान्त्रात्राम् वस्तान्त्रम् । अस्तान्त्रम् । अस्तान्त्रमान्त्रमान्त्रमान्त्रमान्त्रमान्त्रमान्त्रमान्त्रमान्त्रमान्त्रमान्त्रमान्त्रमान्त्रमान्त्रमान्त्रम

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higher in the experimental rats during special test rotation than in the control group. When 16 of the animals were subjected to lethal doses of acceleration of the special test of acceleration of the effects (1050, 20 to 25 G for 5 min), no substantial difference was discarded in the effects on experimental and control animals. The effects of acceleration on the vestibular organ were measured by the bioelectric activity of the hind leg muscles. It was found that excitability of the vestibular organ diminished, the latent period was found that excitability of the aftereffect was shorter. The bioelectric activity longer, while the duration of the aftereffect was shorter. The bioelectric activity of skeletal muscles in a state of rest was lower in the experimental animals than in the controls. The latent period of the unconditioned defense reflex was longer in the experimental rats than in the controls when the reflex was evoked by a in the experimental rats than in the controls when weaker stimulus, and shorter in the experimental rats than in the controls when medium and strong stimuli were used. The pattern of the development of the vestibmedium and strong stimuli were used. The pattern of the development of the vestibmedium and strong stimuli were used. The pattern of the development of the vestibmedium and strong stimuli were used. The pattern of the development of the vestibmedium and strong stimuli were used. The pattern of the development of the vestibmedium and strong stimuli were used. The pattern of the development of the vestibmedium and strong stimuli were used. The pattern of the development of the vestibmedium and strong stimuli were used. The pattern of the development of the vestibmedium and strong stimuli were used. The pattern of the development of the vestibmedium and strong stimular and unconditioned reflexes indicates that compensatory adaptation of the vestibmedium and strong stimular and unconditions of chronic acceleration. Orig. art. has: 9 figures.

ASSOCIATION: none

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NO REF BOV: 000

OTHER: 000

ATD PRESS: 31.83

6

ACCESSION NR. AP4035825

5/0020/64/156/001/0225/0227

AUTHOR: Gyurdzhian, A. A.; Apanasenko, Z. I.

TITLE: Functional state of the vestibular apparatus in white rats raised under conditions of daily acceleration (centrifugation)

SOURCE: AN SSSR. Doklady\*, v. 156, no. 1, 1964, 225-227

TOPIC TAGS: acceleration, acceleration effect, centrifugation, acceleration adaptation, vestibular apparatus, vestibular stimulation, vestibular tonic reaction, bioelectric response, latent period, stimulation afteraffect

ABSTRACT: Half a litter of rats with their mother was exposed to 4—5 hrs of centrifugation daily (except Sundays) from the age of 2—3 days until the age of 2—3 months. The centrifuge had a radius of revolution of 135 cm, a rate of 33 rpm, and a radial acceleration of 2 g. During centrifugation the rats were able to move about their cage, nurse from their mother, and take other food. The other half of the litter, placed with another mother, served as control. The

Card 1/3

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617810001-7"

#### ACCESSION NR. AP4035825

experimental animals weighed only 60% to 70% as much as the controls from the 20th to the 50th day, but did not differ in their behavior and motor activity. The functional state of the vestibular apparatus was studied in 17 centrifuged and 17 control rats, using electromyograms (EMG's) of the muscles of the lower extremities as an index. The vestibular apparatus was stimulated by rocking the animals about their long axes 0.6 times a second for 10 sec with a maximum angle of inclination of 25°. Background electrical activity (from EMG's, animals at rest) was less than half as great in the centrifuged animals as in the controls; the EMG smoothed out, with rare pulses not exceeding 5 to 20 v and occasionally dropping to noise level. During vestibular stimulation (rocking), the absolute bioelectric activity of the muscles investigated in the centrifuged animals was 0.4 of that found in the controls. The latent period of the vestibular tonic reaction was 0.5 sec for the centrifuged animals as compared with 0.18 sec for the controls. Weakening of the reaction was also manifested in reduction of the duration of vestibular stimulation aftereffect: about 1.0 sec for the controls compared to an average 0.24 sec for the centrifuged animals, lin

Card 2/3

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#### ACCESSION NR. AP4035825

which, in many cases, no aftereffect at all could be observed. It is concluded that daily prolonged acceleration affects the developing organism, in particular the formation of the functional state of the organ of equilibrium. Further studies may help clarify the role of normal and abnormal gravity as an ecological factor and shed light on the problems of training and adaptation of the body to nonterrestrial gravity conditions.

ASSOCIATION: none

SUBMITTED: 16Dec63

DATE ACQ: 26Hay64 ENG

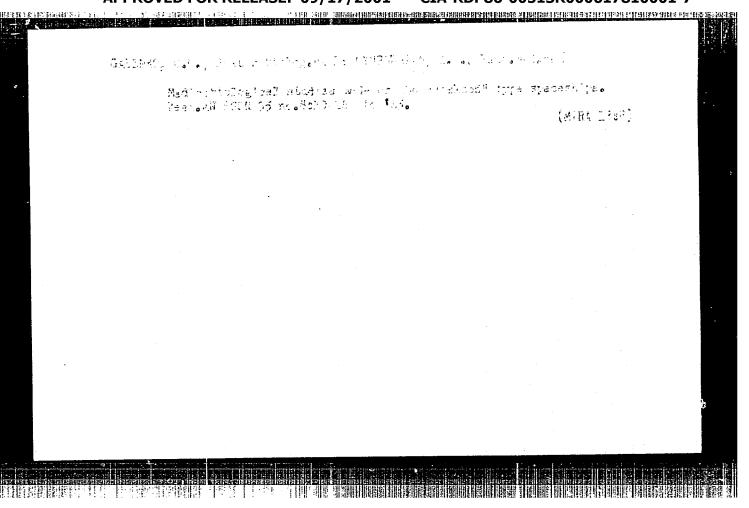
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**Cord** 3/3



GYURDZHIAN, A.A.; VOROB'YEV, A.I.

Thirteenth International Congress of Aviation and Space Medicine. Izv.
AN SSSR. Ser. biol. no.4:614-623 Jl-Ag '65. (MIRA 18:7)

d) wvh/tt/RD/GW ur/0030/65/000/008/0019/0026 L 1986-66 = EWT(1)/FSS-2/FS(v)-3/EEC(k)-2/EWA(d)ACCESSION NR: AP5022131 613.693 AUTHOR: Gazenko, O. G. (Doctor of biological sciences); Gyurdzhian, A. A. (Candidate of medical sciences) TITLE: Medical-biological investigations aboard spacecraft of the "Voskhod" type AN SSSR. Vestnik, no. 8, 1965, 19-26 SOURCE: TOPIC TAGS: astronautic personnel, biologic acceleration effect, biologic deceleration effect, biologic vibration effect, weightless-ness, psychologic stress, isolation test, flight disorientation, space radiation hazard ABSTRACT: A preliminary analysis of medical findings for Voskhod-l and Voskhod-2 crew members is presented. Medical investigations consisted primarily of monitoring physiological indices and studying cosmonaut reactions and work capacity. With a doctor (B. B. Yogorov) aboard Voskhod-1, additional medical investigations including blood tests, vestibular analyzer tests, and recording of various bicelectric data were conducted. Conclusions on the condition of cosmonauts during flight are based on biotelemetric data, medical tests,

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analysis of two-way radio communications, television observations, and personal accounts. The danger of irradiation effects is ruled out on the basis of dosimetric and biological test data. All five cosmonauts withstood the active part of Voskhod-1 and Voskhod-2 flights very well, with physiological indices showing lesser shifts than for the Vostok series. Thus, from a medical and psychological point of view space flights with a three man crew (Voskhod-1) or two man crew (Voskhod-2) display distinct advantages over one man flights (Vostok series). Even the Voskhod preflight indices were more favorable. An analysis of work performance data for Voskhod-1 and Voskhod-2 crews shows that the work capacity of cosmonauts remains sufficiently high to carry out flight program tasks successfully. Physical data recorded during flight and postflight physical examinations have not disclosed any basic functional disorders of the organism. However, during flight the appearance of vestibular-vegetative disturbances, fatigue, blood circulation disorders, and metabolic disorders is possible and requires the development of proper preventive and training measures. With improved methods of personnel selection and training and further development of man's capacity to adapt to new conditions using

Card 2/3

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<u>११ ॥ इ.स.म. आहमारा साम्या अध्यक्तिकारा स्थानिक स्थानिक स्थानिक अस्ति । अस्तिक स्थानिक स्थानिक स्थानिक स्थानिक</u>

AUTHOR: Gyurdzhian, A. A.;

ORG: none

TITLE: Combined action of acceleration and hypoxia

SOURCE: International Astronautical Congress. 17th, Madrid, 1966. Doklady. no. 5. 1966. O vliyanii prodolzhitel'nykh uskoreniy na gazoobmen i ustoychivost' k gipoksii u krys, 1-6

TOPIC TAGS: animal physiology, biologic acceleration effect, hypoxia, rat

#### ABSTRACT:

The combined effects of acceleration and hypoxia on the animal organism were studied using an automated testing unit for gas exchange studies specially developed for these experiments. The apparatus consists of a hermetic chamber for small laboratory animals (in this case, rats) equipped with chemical absorbers for CO<sub>2</sub> and water vapor. Oxygen was fed to the animals automatically as needed. The amount of O<sub>2</sub> used was gaged by the number of times the pressure relay was activated

Card 1/5

or by the intervals between relay operations. The device could be placed on a centrifuge to study the joint effects of acceleration and various gas media. During centrifugation animals were watched on TV and monitored with biosensors. Information about the temperature, pressure, and humidity of the chamber atmosphere was constantly available.

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In the first part of the experiment, gas exchange studies were conducted during sustained centrifugation (6 hr to 2 days) of animals at 4--5 and 10 G. Animals were unrestrained and normal gas atmosphere was maintained. Experimental results showed that acceleration produced a 20--35% decrease in gas exchange in experimental animals as compared with controls. A tendency toward progressive decrease in gas exchange with increasing acceleration was noticed, but experimental material was insufficient to prove this conclusion.

Next the resistance of rats to lethal hypoxia in conditions of acceleration was studied by supplying nitrogen to the chamber instead of O2. Controls were subjected to hypoxia but were not accelerated. The decreased resistance of centrifuged animals to acute hypoxia can be seen in Table 1.

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Table 1. Resistance of rats to "lethal hypoxia" under acceleration conditions

Indices of resistance to hypoxia	Control experiments (without acceleration)	Acce:	leration, G 10 18
Length of life of the last rat, min	157	80	91.5 46
Chamber oxygen content at end of the experiment, %	4.0	4.75	5.15 7.7
Amount of oxygen used, arbitrary units	8	7	5.5 <del>-</del>

The combined effects of acceleration and hypoxia were further studied using rats centrifuged daily for 5--6 hr at 2--3 G for the 2--3 months preceding the experiment. Experimental results showed that rats periodically exposed to increased gravity had lower gas exchange coefficients than control animals. Another group of tests (see Table 2) show that gas exchange is somewhat decreased during acceleration.

Table 2. Oxygen consumption in experimental animals subjected to acceleration of 10 G and unaccelerated controls

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Effect of accelerations	(lite	onsumption rs in 24 hr kg of weight)	Difference consumptio experiment trol anima	n between al and con-
		experimental	liters	1 %
Without accel- eration	69.4	60 <b>.</b> 6	8.8	12.7
Acceleration of	43	37 <b>.</b> 7	5.3	12.3

The temporary nature of the shifts in gas exchange observed in periodically centrifuged animals was demonstrated by tests with these animals 1--2 months after the daily acceleration regime was terminated. It was shown that the resistance of experimental (periodically centrifuged) rats to lethal hypoxia was higher than that of the controls. This is demonstrated by their longer life span in hypoxic conditions and by the lower chamber oxygen content at the end of the experiment. However, the resistance of these experimental animals to lethal acceleration was somewhat lower than that of the controls. Furthermore, experimental animals did not differ

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ACC NR: AT7011643

from controls in their resistance to lethal hypoxia when the magnitude of acceleration was 4 G. It is probable that in this case the greater resistance of experimental animals to hypoxia and their lesser resistance to acceleration cancel each other out.

Earlier studies have shown that under the influence of sustained accelerations, metabolism and energy expenditure are maintained at a lower, more efficient level. Thus, it is not surprising that resistance of rats to hypoxia drops during acceleration. Orig. art. has: 2 tables. ATD PRESS: 5098-F/

SUB CODE: 06 / SUBM DATE: none / OTH REF: 003

Card 5/5

GYURDZHIYAN, V.M.; PIOTTUKH, Yu.N.

No. HEE

Effect of certain factors on the aerodynamics and heat transfer in a three-component flow. Izv. SO AN SSSR no.2 Ser. tekh. nauk no.1:122-126 '63. (MIRA 16:8)

1. Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya AN SSSR, Novosibirsk. (Fluid dynamics) (Heat-Transmission)

L 15347-66 EWI(1)/EWP(m)/EWI(m)/EWA(d)/T/FCS(k) ACC NR: AF6002017  (A) SOURCE CODE: UR/0288/65/000/003/0097/0104  AUTHOR: Gyurdzhiyan, V. M.; Shabanov, S. I.  ORG: Institute of Physical and Chemical Principles for Processing Mineral Resources, siberian Department, AN SSSR, Novosibirsk (Institut fiziko-khimicheskikh osnov perstabotki mineral'nogo syr'ya Sibirskogo otdeleniya AN SSSR)  TITLE: Calculation of the combustion process for a porous material in Stokes flow conditions  SOURCE: AN SSSR. Sibirskoye otdeleniye. Izvestiya. Seriya tekhnicheskikh nauk, no.  TOPIC TAGS: combustion kinetics, combustion theory, flow kinetics, Navier Stokes equation  ABSTRACT: The authors consider heterogeneous reaction of particles in a flow on the basis of the reaction characteristics for a single particle. The case of flow reacting surface and the coefficient of diffusion within the sphere at Re<1. The mathematical formulation of the problem for quasi stationary isothermal conditions  Card 1/2  UDC: 662.611 541.126	L 15347-66 EWT(1)/EWP(mACC NR: AP6002017	n)/EWT(m)/EWA(d)/T/FCS(k	) JWL/WW, (	•	
ORG: Institute of Physical and Chemical Principles for Processing Mineral Resources, Siberian Department, AN SSSR, Novosibirsk (Institut fiziko-khimicheskikh osnov pererabotki mineral'nogo syr'ya Sibirskogo otdeleniya AN SSSR)  TITLE: Calculation of the combustion process for a porous material in Stokes flow conditions  SOURCE: AN SSSR. Sibirskoye otdeleniye. Izvestiya. Seriya tekhnicheskikh nauk, no.  TOPIC TAGS: combustion kinetics, combustion theory, flow kinetics, Navier Stokes equation  ABSTRACT: The authors consider heterogeneous reaction of particles in a flow on around a porous carbon sphere is studied with regard to variation in the internal reacting surface and the coefficient of diffusion within the sphere at Re<1. The mathematical formulation of the problem for quasi stationary isothermal conditions	AUTHOR: Gyurdzhiyan, V. M.	Shabanov, S. T.	: UR/0288/65/000/	/003/0097/0104	3 2 2 2
Card 1/2	ORG: Institute of Physical Siberian Department, AN SSSR erabotki mineral'nogo syr'y	and Chemical Principles Novosibirsk (Institut Sibirskogo otdeleniya	AN SSSR1	ikn osnov per-	
SOURCE: AN SSSR. Sibirskoye otdeleniye. Izvestiya. Seriya tekhnicheskikh nauk, no.  TOPIC TAGS: combustion kinetics, combustion theory, flow kinetics, Navier Stokes  ABSTRACT: The authors consider heterogeneous reaction of particles in a flow on the basis of the reaction characteristics for a single particle. The case of flow reacting surface and the coefficient of diffusion within the sphere at Re<1. The mathematical formulation of the problem for quasi stationary isothermal conditions  Card 1/2	TITLE: Calculation of the conditions	combustion process for a	porous material	in Stokes flow	
TOPIC TAGS: combustion kinetics, combustion theory, flow kinetics, Navier Stokes equation  ABSTRACT: The authors consider heterogeneous reaction of particles in a flow on the basis of the reaction characteristics for a single particle. The case of flow reacting surface and the coefficient of diffusion within the sphere at Re<1. The mathematical formulation of the problem for quasi stationary isothermal conditions  Card 1/2	1		· ·	· ·	
Card 1/2	TOPIC TAGS: combustion kine equation ABSTRACT: The authors consi the basis of the reaction ch around a porous carbon spher	der heterogeneous reactivariation theory, der heterogeneous reactivariation for a sing e is studied with regard	, flow kinetics, N ion of particles i	avier Stokes n a flow on case of flow	2
		the problem for quasi st	thin the sphere a ationary isotherm	t Re≼l. The al conditions	3.
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ACC NR: AP6002017

reduces to a system of Navier-Stokes equations for the space outside the sphere for O2, CO and CO2 respectively. This system of equations is given in spherical coordinates. The system of equations for the space within the sphere and boundary conditions of the problem are given in a previous work. An approximate analytical solution for the problem is given for Stokes flow conditions in the region 2.55 sm where Sm = DNU is the Semenov number. An approximate expression is found for the combustion for particles of semicoke 88.5 μ in diameter. These formulas may be extended to particles of semicoke down to 2 μ in diameter. Analytical calculations for various types of coal show satisfactory agreement with experimental data. Origart, has: 5 figures, 23 formulas.

SUB CODE: 20/ SUBM DATE: 17Aug64/ ORIG REF: 013/ OTH REF: 000

GYURDZHIYAN, V.M.; SHABANOV, S.I.

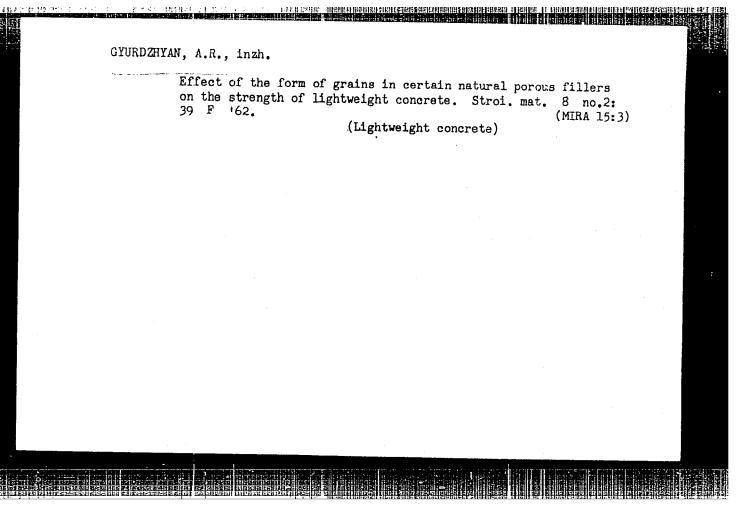
Calculating the combustion process for a porous material under Stock flow conditions. Izv. SO AN SSSR no. 10. Ser. tekh. nauk no. 3:97-104 \*65 (MIRA 19:1)

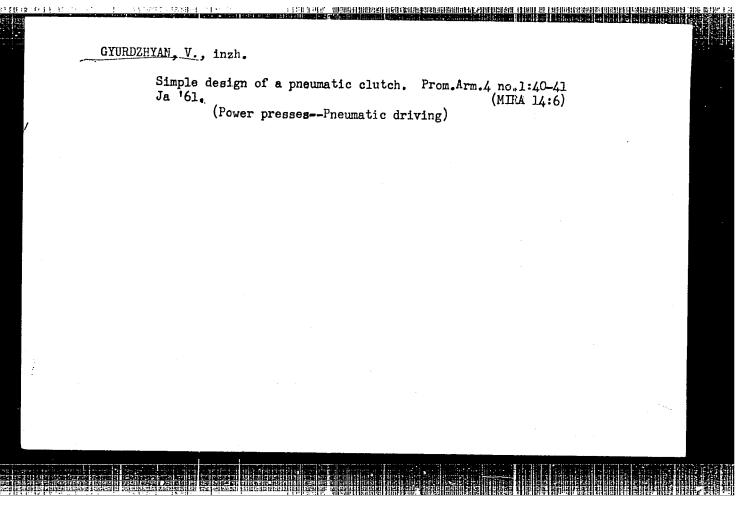
1. Institut fiziko-khimicheskikh osnov pererabotki mineralinogo syriya Sibirskogo otdeleniya AN SSSR, Novosibirsk. Submitted August 17, 1964.

SIMONOV, M.Z., doktor tekhn.nauk; SARXISYAN, R.R., kand.tekhn.nauk; MANVELYAN, D.S., inzh.; MKHIKYAN, R.M., inzh.; GYURDZHYAN, A.R., inzh.; MALADZHYAN, P.A.

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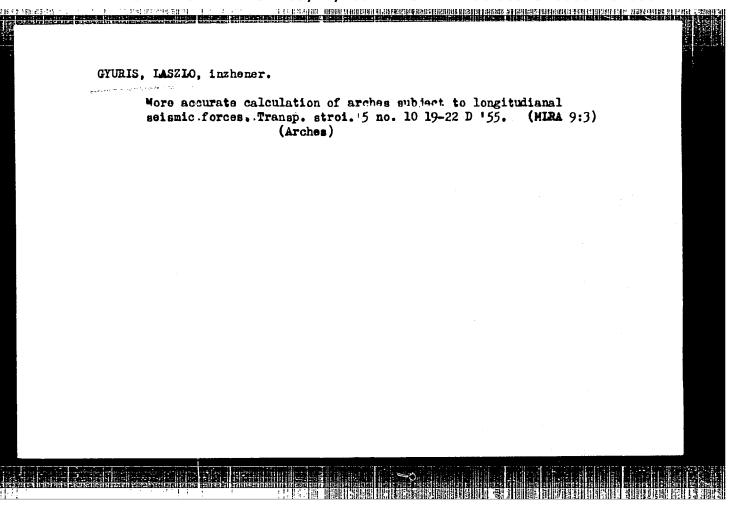
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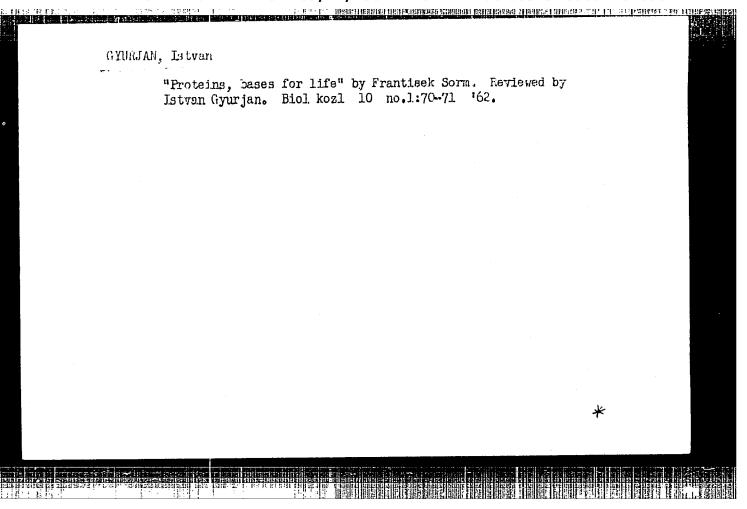
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Abstract

: The mucosa of the larynx is generously supplied with taste buds (TB) with various types of innervation. TB are found in the greatest numbers along the posterior surface of the epiglottis and the internal surface of the aryepiglottic fold (the reflexogenic zone of Gracheva) and exhibit individual variations. Moreover, there are sometimes found: (1) typical or altered

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Hungary/Inorganic Chemistry - Complex Compounds, C

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 644

Author: Inczedy, J., and Gyurko, J.

Institution: None

Title: Production of Hydroxyl Amine by the Raschig Method

Original

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Abstract: The conditions for the production of NH2OH by the Raschig method have

been investigated. The most suited method was found to be one which had been published earlier (L. Urbanek, Mezogazd. Kutatasok, 1933, Vol 6, 334) in which the optimum mole ratio was found to be NaHSO3: NaNO2 = 1:1.95. The effect of pH, temperature, and mixing rate on the production of NH2OH was investigated. At optimum conditions the

yield of end product can exceed 90%.

Card 1/1

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